

## **REMARKS**

In the Office Action, claims 1-37 were pending. Claims 10-37 were withdrawn from consideration, and claims 1-3 and 6-9 were rejected. Claims 4 and 5 were objected to. Claim 3 has been canceled and is no longer at issue.

Claims 1 and 8 have been amended, and new claims 38 and 39 have been added. The proposed amendments and new claims do not contain new matter. The subject matter of the amendments can be found in paragraph [0030] of the originally filed specification and in the originally filed claims among other places. Applicants respectfully request admission of the amended claims 1 and 8 and new claims 38 and 39.

### **I. Claim Rejections under 35 U.S.C. § 102**

#### **A. Rejection of Claims 1, 2 and 9**

In the Office Action at page 3, number 5, claims 1, 2 and 9 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,048,621 ("Gallego"). The Examiner says with respect to claim 2, the heating merely reads on exposure to the heat from changes in temperature in the surrounding environment, which would inherently occur.

##### **1. The Present Invention**

The present invention as recited in amended claim 1 is a method of making a coated substrate, comprising: providing a substrate having a functional coating including one or more infrared reflective films comprising a reflective metal with a first emissivity value; and depositing a coating material comprised of 35 wt.% to 100 wt.% alumina and 0 wt.% to 65 wt.% silica having a second emissivity value over at least a portion of the functional coating to provide a coating stack having an emissivity value greater than the emissivity value of the functional coating.

##### **2. Gallego**

Gallego discloses a high performance solar control glass comprising a glass substrate with a coating comprising a heat absorbing layer and a low emissivity layer of a metal oxide. The heat absorbing layer can be doped

tungsten oxide, or of cobalt oxide, chromium oxide, iron oxide or vanadium oxide. The low emissivity layers can be doped tin oxide or doped indium oxide.

### **3. Traversal of the Rejection**

To anticipate a claim, a single source must contain all of the elements of the claim. See Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986).

The present invention as recited in amended claim 1 is method of making a coated substrate, comprising: providing a substrate having a functional coating including one or more infrared reflective films comprising a reflective metal and depositing a coating material comprised of 35 wt.% to 100 wt.% alumina and 0 wt.% to 65 wt.% silica to provide a coating stack having an emissivity value greater than the emissivity value of the functional coating. In contrast to the present invention, Gallego discloses depositing a heat absorbing layer and depositing a low emissivity layer of a metal compound. Examples of the heat absorbing layer of Gallego are doped tungsten oxide, cobalt oxide, chromium oxide, iron oxide and vanadium oxide. Examples of the low emissivity layer of Gallego are doped tin oxide or doped indium oxide. Neither the step of depositing the heat absorbing layer or depositing the low emissivity layer of a metal compound of Gallego, qualifies as "depositing a coating material comprised of 35 wt.% to 100 wt.% alumina and 0 wt.% to 65 wt.% silica" as recited in amended claim 1. Further, Gallego teaches against a key restriction of the present invention: to provide a coating stack having an emissivity value greater than the emissivity value of the functional coating. Gallego states that an additional layer may be incorporated over the coating, for example as an anti-reflection layer, but the use of such overlayers may lead to a loss of the low emissivity properties i.e. an increase in emissivity, and is not usually preferred.

Because Gallego does not disclose each and every element in amended claim 1, it cannot anticipate the recited method of making a coated substrate. As a result, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b).

Claims 2 and 9 directly or indirectly depend on claim 1 and recite the present invention in varying scope. Applicants have discussed above how amended claim 1 is not anticipated by Gallego and there is nothing in Gallego that teaches or discloses the invention as recited in claim 1, as further limited by claims 2 and 9. As a result, claims 2 and 9 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 2 and 9 under 35 U.S.C. § 102(b).

**B. Rejection of Claims 1, 2, 6, 7 and 9**

In the Office Action at page 3, number 6, claims 1, 2, 6, 7 and 9 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,735,488 ("Rancourt"). The Examiner says with respect to claim 2, the heating merely reads on exposure to the heat from changes in temperature in the surrounding environment, which would inherently occur.

**1. Rancourt**

Rancourt discloses a structure that provides suppression of reflectance of radiation and thus enhanced emissivity with a substrate that supports alternating absorber and spacer layers with interleaved antireflectance coatings formed of thin films of different materials having different indices of refraction.

**2. Traversal of the Rejection**

The law for a proper rejection under 35 U.S.C § 102(b) is stated above. The present invention as recited in amended claim 1 is method of making a coated substrate, comprising: providing a substrate having a functional coating including one or more infrared reflective films comprising a reflective metal. In contrast to the present invention, Rancourt discloses depositing a spacer layer and depositing an absorber layer. An example of a spacer layer of Rancourt is thorium fluoride. An example of an absorber layer of Rancourt is silicon dioxide. Neither the step of depositing the spacer layer or depositing the absorber layer of Rancourt, qualifies as "depositing one or more infrared reflective films comprising a reflective metal" as recited in amended claim 1.

Because Rancourt does not disclose each and every element in amended claim 1, it cannot anticipate the coating as recited in claim 1. As a

result, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b).

Claims 2, 6, 7 and 9 directly or indirectly depend on claim 1 and recite the present invention in varying scope. Applicants have discussed above how amended claim 1 is not anticipated by Rancourt and there is nothing in Rancourt that teaches or discloses the invention as recited in claim 1, as further limited by claims 2, 6, 7 and 9. As a result, claims 2, 6, 7 and 9 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 2, 6, 7 and 9 under 35 U.S.C. § 102(b).

**C. Rejection of Claims 1-3, 8 and 9**

In the Office Action at page 4, claims 1-3, 8 and 9 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,387,433 ("Balian"). The Examiner states that with respect to claim 8, Balian does not specifically teach the index of refraction of the alumina layer, but since Balian teaches a coating material having the claimed composition and thickness properties, it would have been expected that the alumina coating layer would also inherently have the claimed refractive index properties.

**1. Balian**

Balian discloses a product containing a glass substrate and a transparent conductive layer made of sub-stoichiometric metallic oxide coated with a metallic oxide overlayer protecting the conductive layer from oxidation.

**2. Traversal of the Rejection**

The law for a proper rejection under 35 U.S.C § 102(b) is stated above. The present invention as recited in amended claim 1 is method of making a coated substrate, comprising: providing a substrate having a functional coating including one or more infrared reflective films comprising a reflective metal.

In contrast to the present invention, Balian discloses depositing a conductive layer made of a sub-stoichiometric metallic oxide and depositing an overlayer. Examples of an overlayer of Balian are aluminum oxide and silica. Neither the step of depositing the conductive layer made of a sub-stoichiometric metallic oxide or depositing the overlayer of Balian, qualifies as

“depositing one or more infrared reflective films comprising a reflective metal” as recited in amended claim 1.

Because Balian does not disclose each and every element in claim 1, it cannot anticipate the coating as recited in claim 1. As a result, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b).

Claims 2, 8 and 9 directly or indirectly depend on claim 1 and recite the present invention in varying scope. Applicants have discussed above how amended claim 1 is not anticipated by Balian and there is nothing in Balian that teaches or discloses the invention as recited in claim 1, as further limited by claims 2, 8 and 9. As a result, claims 2, 8 and 9 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 2, 8 and 9 under 35 U.S.C. § 102(b).

#### **D. Rejection of Claims 1, 2 and 9**

In the Office Action at page 4, number 8, claims 1, 2 and 9 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application No. 2002/0176988 (“Medwick”).

##### **1. Medwick**

Medwick discloses a method and coating are provided for temporarily protecting a substrate or article during shipping, handling or storage by applying a removable protective coating over at least a portion of the substrate. The protective coating can be the evaporation or reaction product of an aqueous coating composition containing a polyvinyl alcohol polymer which may be subsequently removed by aqueous washing, thermal decomposition or combustion. The protective coating can also be formed by sputtering a substantially carbon coating onto the substrate.

##### **2. Traversal of the Rejection**

The law for a proper rejection under 35 U.S.C § 102(e) is stated above. The present invention as recited in amended claim 1 is method of making a coated substrate, comprising: providing a substrate having a functional coating including one or more infrared reflective films comprising a reflective metal and depositing a coating material comprised of 35 wt.% to 100 wt.%

alumina and 0 wt.% to 65 wt.% silica to provide a coating stack having an emissivity value greater than the emissivity value of the functional coating. In contrast to the present invention, Medwick discloses depositing a protective coating that is an evaporation or reaction product of an aqueous coating composition containing a polyvinyl alcohol polymer or a sputtered coating of substantially carbon. Medwick does not disclose depositing a coating material comprised of 35 wt.% to 100 wt.% alumina and 0 wt.% to 65 wt.% silica. Further, Medwick does not disclose a key restriction of the present invention: to provide a coating stack having an emissivity value greater than the emissivity value of the functional coating.

Because Medwick does not disclose each and every element in claim 1, it cannot anticipate the coating as recited in claim 1. As a result, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b).

Claims 2 and 9 directly or indirectly depend on claim 1 and recite the present invention in varying scope. Applicants have discussed above how amended claim 1 is not anticipated by Medwick and there is nothing in Medwick that teaches or discloses the invention as recited in claim 1, as further limited by claims 2 and 9. As a result, claims 2 and 9 are not anticipated by the reference of record. Applicants respectfully request the withdrawal of the rejection of claims 2 and 9 under 35 U.S.C. § 102(b).

## **II. Objection to Claims 4 and 5**

In the Office Action at page 5, number 9, claims 4 and 5 were objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Because claims 4 and 5 now depend on a patentable independent claim, Applicants respectfully request that this rejection be withdrawn.

## **III. New Claims 38 and 39**

New claims 38 and 39 contain the limitations found in claims 4 and 5, respectively, including the original limitations of the base claim and any intervening claims. As a result, the claims should be allowable in light of the Examiner's comments at page 5, number 9, where the Examiner stated claims 4 and 5 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants respectfully request the allowance of new claims 38 and 39.

#### **IV. Objection to the Drawings**

In the Office Action at page 2, number 3, the Examiner objected to the drawings filed on October 22, 2001 because Fig. 7 was missing. Fig. 7 is included with this response. As a result, Applicants respectfully request the withdrawal of this objection.

#### **V. Conclusion**

In light of the amendments and remarks presented in this correspondence, Applicants respectfully request the withdrawal of the rejection of claims 1, 2 and 9 under 35 U.S.C. § 102(b) as being anticipated by Gallego; the rejection of claims 1, 2, 6, 7 and 9 under 35 U.S.C. § 102(b) as being anticipated by Rancourt; the rejection of claims 1-3, 8 and 9 under 35 U.S.C. § 102(b) as being anticipated by Balian; the rejection of claims 1, 2 and 9 under 35 U.S.C. § 102(e) as being anticipated by Medwick; and allowance of claims 1, 2 4-9, 38 and 39. If any questions remain about this application, the Examiner is requested to contact Applicants' attorney at the telephone number provided below. Thank you.

Respectfully submitted,

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